UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,720	01/16/2004	Yong-Deok Kim	5000-1-515	8222

33942	7590	12/05/2006

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EXAMINER
IDOWU, OLUGBENGA O

ART UNIT	PAPER NUMBER
2621	

DATE MAILED: 12/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/759,720	KIM ET AL.
	Examiner	**Art Unit**	
	Olugbenga O. Idowu	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 January 2004*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☒ All   b)☐ Some * c)☐ None of:

   1.☒ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date *See Continuation Sheet*.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date : 4/27/2006, 3/14/2005,10/16/2006   .

DETAILED ACTION

Specification

1.   The disclosure is objected to because of the following informalities: Overhead

200 is referred to in paragraph 24 line 1 while there is no labeling that corresponds to

200. In paragraph 26 line 4, "on" should be --of--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed
> or described as set forth in section 102 of this title, if the differences between the
> subject matter sought to be patented and the prior art are such that the subject
> matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was
> made.

3.   Claims 1, 2,4 - 8,10 – 13 and 16 - 20 are being rejected under 35 U.S.C. 103(a)

as being unpatentable over Ishida (US Patent No. 6,434,171) in view of Kato. (Patent

No. 6, 233, 255).

Consider **claim 1,** Ishida clearly teaches "An MPTS-SPTS separation device in a

digital broadcasting system (Fig. 1), comprising:

a receiving interface (11) for receiving an MPEG-2 MPTS (Multiple-Program Transport

Stream) combining a plurality of programs , provided from a digital broadcast program

provider (the multiplexers 11i – 11m, which are identically constructed, multiplex

audio/video MPET-2 TS of a program, which is selected from a number of MPEG2

transport stream, col. 4, lines 55- 58); an MPTS-SPTS separator (Fig. 1, Fig. 2 further

explanations Fig. 1) for

a) detecting a PAT (Program Association Table)(Fig. 2, 21d) packet from MPEG-2

MPTS data provided from the receiving interface, (By referring to the PAT and PMT in

the service information, the PAT/PMT analyzers 21d obtain the packet identifiers, col.

5, lines 27 - 30)

b) analyzing PIDs (Program IDs)(Fig. 2, 21d) of a PMT (Program Map Table) that

correspond respectively to a plurality of programs existing in an MPEG-2 MPTS

packet. (PAT/PMT analyzers 21d obtain the packet identifiers PID of the audio/video

streams of the designated programs, col. 5, lines 29-31)

c) receiving information of a single program selected by a user (Fig. 1, 3. The CPU (in

the DSTB) controls the demultiplexer based on program selection...selected by user,

col. 8, lines 32-36),

d) removing packets associated with all programs other than the selected program(Fig.

2, 21a. PID filter separate the video streams and audio streams of designated

programs from the entered MPEG-2 TS, col. 5, lines 45-48)

Ishida does not explicitly teach:

e) changing a PAT by deleting PIDs associated with said other programs from the

PAT, while retaining PIDs of a PMT that are associated with the selected

program, and

f) inserting the changed PAT into a stream corresponding to the

selected single program; and a transmitting interface for transmitting an SPTS

outputted from the MPTS-SPTS separator.

In a relevant field of endeavor, Kato teaches a system that selects a program from a

stream of multiple programs. Kato also teaches:

e) changing a PAT (the program control information(also referred to as the PAT, col. 2,

line 52) editing section as a program control information editing means, col. 20, lines

48-49), by deleting PIDs associated with said other programs from the PAT, while

retaining PIDs of a PMT that are associated with the selected Program (program

control information aborting sections, col. 20, lines 15-29 ...As described above, by

aborting only all program control information from the bit streams received by the

remultiplexing apparatus and only multiplexing again the program information packet

from the program generating section and the packet containing the newly generated all

program control information, col. 21, lines 27- 32), and

f) inserting the changed PAT into a stream corresponding to the

selected single program (and transmits the remultiplexed packet as new program

multiplexed information, col. 9, lines 21-22); and a transmitting interface (and transmits,

col. 9, line 21) for transmitting an SPTS outputted from the MPTS-SPTS separator.

Therefore, It would have been obvious to one of ordinary skill in the art at the time of the

invention to combine Ishida and Kato. Both Kato and Ishida describe a system for

conserving bandwidth by reducing multiple program transmission to a single or reduced

number of programs to be transmitted. Kato's separation technique can be incorporated

into Ishida's invention by using the procedure as shown in Kato to combine the new

PAT, PMT and PID of the selected program, in Ishida, and combine them with the

audio/video stream of the requested program. Kato is just a further explanation of the

process that Ishida uses to select and transmit its selected stream. The higher level of

explanation produced in by Kato give a greater understanding of the process of

selecting a single stream from multiple streams.

4.   Consider **claim 2,** the combination of Ishida and Kato teach:

The MPTS-SPTS separation device as set forth in claim 1, wherein the

MPTS-SPTS separator includes: a PAT extractor/parser (Ishida; Fig. 2, 21d) for

detecting a PAT packet (Ishida; By referring to the PAT and PMT in the service

information, the PMT/PAT analyzers obtain the packet identifiers, col. 5, lines 27 - 30)

in the MPEG-2 MPTS data provided from the receiving interface; a PMT

extractor/parser (Ishida; Fig. 2, 21d) for analyzing PIDs (Program ID) of a PMT that

correspond respectively to a plurality of programs existing in an MPEG-2 packet

(Ishida; the PMT/PAT analyzers (21d) obtain the packet identifiers... of the designated

programs, col. 5, lines 27 - 30); a PMT filter/selector (Ishida: demultiplexer 45, col. 8,

line 32) for receiving information of a single program selected by a user (Ishida; CPU

67 (in the DSTB) controls the demultiplexer 45 based upon program selection data that

has entered from a remote control, col. 8, lines 32-35); a packet terminator for

removing packets associated with all programs other than the selected program

(Ishida; The PID filters 21a separate the video streams and audio streams of

designated programs, col. 5, line 45-46); a PAT inserter(Kato: program control

information(also referred to as the PAT, col. 2, line 52) aborting sections, col. 20, line

15) for changing the PAT, by deleting PIDs associated with said other programs from

the PAT, while retaining said PIDs of a PMT that are associated with the selected

program (program control information aborting sections, works by aborting only all

program control information from the bit streams received by the remultiplexing

apparatus and only multiplexing again the program information packet from the

program generating section and the packet containing the newly generated all program

control information, col. 21, lines 27- 32), and inserting the changed PAT into a stream

corresponding to the selected single program (Kato; and transmits the remultiplexed

packet as new program multiplexed information, col. 9, lines 21-22).

5.   Consider **claim 4** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 2, wherein the

packets removed are video (PID filters 21a separate the audio/video streams, col. 5,

line 30), audio or data packets.

6.   Consider **claim 5** Ishida teaches: ·

The MPTS-SPTS separation device as set forth in claim 2, said device being

part of a CATV (cable television) broadcast station (CATV center, col. 4, line 26) that

receives at least one of VOD (video on demand)(audio/video col. 4, lines 30-31), aerial

and satellite broadcasts.

7.   Consider **claim 6** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 2, said device being

part of an Optical Line Termination (OLT)(CATV center, col. 4, line 26) that receives at

least one of VOD (video on demand)(audio/video col. 4, lines 30-31), aerial and

satellite broadcasts.

8.   Consider **claim 7** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 2, wherein the PAT

extractor/parser refers to a PID (Packet Identification)(PAT/PMT analyzers obtain the

packet identifiers, col. 5, lines 29-30) in an overhead section of the MPTS packet, so

as to identify whether the MPTS packet is a PAT packet (The PAT, which is

transmitted with a PID of 0, specifies the packet identifier of a TS packet, col. 1, lines
48-50).

9.   Consider **claim 8** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 2, further comprising

a user interface for receiving and displaying an analysis result (based on service

information (contains PMT and PAT), displays receivable information on a display

unit, col. 8, line 65-66) of the MPEG-2 MPTS packet from the PAT extractor/parser

(The SI (service information) processor 67a combines the partial service information

sent from the DSTB control unit 14 and the service information, col. 8, line 59-60),

and, when receiving information of said single program, providing the information to

the PMT filter/selector (CPU 67 controls the demultiplexer 45 based upon program

selection data, col. 8, lines 32-35).

10.   Consider **claim 10** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 2, wherein the

packets removed are video (PID filters 21a separate the audio/video streams, col. 5,

line 30(Ishida)), audio or data packets

11.   Consider **claim 11** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 8, said device being

part of a CATV (cable television) broadcast station (CATV center, col. 4, line 26) that

receives at least one of VOD (video on demand)(audio/video col. 4, lines 30-31), aerial

and satellite broadcasts.

12.   Consider **claim 12** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 8, said device being

part of an Optical Line Termination (OLT)(CATV center, col. 4, line 26) that receives at

least one of VOD (video on demand)(audio/video col. 4, lines 30-31), aerial and

satellite broadcasts.

13.   Consider **claim 13** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 8, wherein the user

interface includes any one of an LCD (Liquid Crystal Display) and a CRT monitor

(Display Unit, col. 8, line 66, since one of the main motives of the invention is to save

cost, it is not out of the ordinary for the selected display to be a CRT or LCD because

they are two of the cheapest available display technologies) of a general computer.

14.   Consider **claim 16** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 1, wherein the

MPTS-SPTS separation device is installed in a cable TV broadcast station of a

wired cable system (CATV center, Fig. 1)

15.   Consider **claim 17** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 1, wherein the

MPTS-SPTS separation device is installed in an OLT (Optical Line Termination)(CATV

center 1, col. 4, line 25-36) of an AON (Active Optical Network)(Bidirectional optical

transmission path 2, col. 4, lines 34-35).

16.   Consider **claim 18** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 1, wherein the

packets removed are video (PID filters 21a separate the audio/video streams, col. 5,

line 30), audio or data packets.

17.   Consider **claim 19** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 1, said device being

part of a CATV (cable television) broadcast station (CATV center, col. 4, line 26) that

receives at least one of VOD (video on demand)(audio/video col. 4, lines 30-31), aerial

and satellite broadcasts.

18.   Consider **claim 20** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 1, said device being

part of an Optical Line Termination (OLT)(CATV center 1, col. 4, line 25-36) that

receives at least one of VOD (video on demand) (audio/video col. 4, lines 30-31), aerial

and satellite broadcasts.

19.   Claims 3,9, 14 and 15 are being rejected under 35 U.S.C. 103(a) as being

unpatentable over Ishida and Kato as applied to claims 1, 2 and 8 above, and further in

view of Pinder (U.S. Patent no: 7,065,213)

20.   Consider **claim 3**:

The combination of Kato and Ishida teach a multiple stream separation device using a

multiplexer for the stream separation but they do not teach the device using an FPGA

for the separation.

In the same field of endeavor, Pinder teaches a system that has an input of a plurality of

streams and outputs at least one transport stream. Pinder also teaches:

The MPTS-SPTS separation device as set forth in claim 2, wherein the

  MPTS-SPTS separator is implemented with an FPGA (Field Programmable Gate

  Array)(FPGA, col. 13, line 19).

It would have been obvious to one of ordinary skill in the art at the time of the invention

to combine Pinder with the combination of Kato and Ishida because Pinder's invention

is about ways to extract a single stream from multiple streams. Pinder's separation

technique can be incorporated into the combination of Kato and Ishida by simply

changing the multiplexers for the FPGA. FPGAs are programmable, which makes them

flexible like software and also have the reliability of hardware.

21.   Consider **claim 9**

The combination of Kato and Ishida teach a multiple stream separation device using a

multiplexer for the stream separation but they do not teach the device using an FPGA

for the separation.

In the same field of endeavor, Pinder teaches a system that has an input of a plurality of

streams and outputs at least one transport stream. Pinder also teaches: The MPTS-

SPTS separation device as set forth in claim 8, wherein the MPTS-SPTS separator is

implemented with an FPGA (Field Programmable Gate Array)(FPGA, col. 13, line 19).

It would have been obvious to one of ordinary skill in the art at the time of the invention

to combine Pinder with the combination of Kato and Ishida because Pinder's invention

is about ways to extract a single stream from multiple streams. Pinder's separation

technique can be incorporated into the combination of Kato and Ishida by simply

changing the multiplexers for the FPGA. FPGAs are programmable, which makes them

flexible like software and also have the reliability of hardware.

22.   Consider **claim 14**

The combination of Kato and Ishida teach a multiple stream separation device using a

multiplexer for the stream separation but they do not teach the device using an

integrated circuit for the separation.

In the same field of endeavor, Pinder teaches a system that has an input of a plurality of

streams and outputs at least one transport stream. Pinder also teaches: The MPTS-

SPTS separation device as set forth in claim 1, wherein the MPTS-SPTS separator is

implemented with an integrated circuit (FPGA, col. 13, line 19, FPGAs are integrated

circuits).

It would have been obvious to one of ordinary skill in the art at the time of the invention

to combine Pinder with the combination of Kato and Ishida because Pinder's invention

is about ways to extract a single stream from multiple streams. Pinder's separation

technique can be incorporated into the combination of Kato and Ishida by simply

changing the multiplexers for an integrated circuit such as an FPGA. FPGAs are

programmable, which makes them flexible like software and also have the reliability of

hardware.

23.   Consider **claim 15**, Pinder teaches: The MPTS-SPTS separation device as set

forth in claim 14, wherein the MPTS-SPTS separator is implemented with an FPGA

(Field Programmable Gate Array)(FPGA, col. 13, line 19).

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Olugbenga O. Idowu whose telephone number is 571

270 1450. The examiner can normally be reached on Monday to Friday, 7am -5pm Est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Patrick Edourd can be reached on 571 272 7603. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

O.I. 11/6/06

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